Volume Title: Behavior of Wage Rates During Business Cycles

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Chapter Title: Unevenness in the Rate of Change in the Prices of Various Goods

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UNEVENNESS IN THE RATE OF CHANGE IN THE PRICES OF VARIOUS GOODS and services is sometimes advanced as a partial explanation of the changing levels of business activity.[1] The failure of wage rates to respond quickly to change in the pace or direction of movement of business is cited as one of the outstanding examples. However, empirical investigation of the movement of wage rates during business cycles in the United States has been stymied because a measure of changes in wage rates has not been readily available. Previous discussions have relied largely upon average hourly earnings, but wage rates and average hourly earnings are not identical. An investigator must therefore face the question, how well does the movement of hourly earnings represent that of wage rates? The question is of some significance because data on average hourly earnings for the recent past and the near future will continue to be more abundant than materials on wage rates. Hence if we can establish firm relations between the movements of the two series, we can extend our knowledge of the behavior of wage rates by utilizing the fuller body of data on hourly earnings.

We are concerned therefore with two questions: the cyclical behavior of wage rates and the parallelism of the cyclical movement of wage rates and average hourly earnings. To advance our understanding of these matters on an empirical level, we must have a measure of wage rate movements for some years and for some industries covered also by statistics on average hourly earnings. To this end we have constructed monthly indexes of wage rates in all manufacturing industries in the United States, in each of nine branches of manufactures and in interstate railroads, and we utilize similar indexes for manufacturing industries in the United Kingdom.

From an analysis of these materials for the two decades between World War I and II the pattern of the cycical behavior of wage rates emerges. Typically, wage rates turned a substantial number of months later than business activity and employment. The average lag behind business activity for aggregate manufactures, for example, was 9 months in the United States and 11 months in

[1] See, e.g., Wesley C. Mitchell, 'Wider Aspects of Business Cycles', *Business Cycles and Their Causes*, Ch. 5, a reprint of Mitchell's *Business Cycles*, Part III (University of California Press, 1941), pp. 149-65. Price disparities were central to Mitchell's own account of what happens during business cycles; moreover, he reduced the core of the business cycle theories of Spiethoff, Sombart, Carver, and Irving Fisher to these terms; see especially pp. 162-5.

the United Kingdom. The lag in turns of wage rates on Class I railroads in the United States was even longer.

With respect to our technical problem of parallelism our analysis suggests that for industry aggregates and at the major turning points of business activity the turning points in average hourly earnings are a reliable indicator of those in wage rates. They are a somewhat less reliable indicator for industry subgroups. We conclude also that the cyclical amplitudes of wage rates and average hourly earnings are closely similar although this judgment rests largely on circumstantial evidence.

If the cyclical amplitudes of average hourly earnings can be taken to approximate those of wage rates, the cyclical amplitude of wage rates in manufacturing have been considerably smaller than those of factory production and employment or of wholesale prices of raw materials and, with minor exceptions, of semifinished goods. In contractions this has been true also of the declines in wage rates compared with the declines in the wholesale prices of finished commodities, but in half of the expansions the amplitudes of wage rates substantially exceeded those of the wholesale prices of finished commodities. The relation was reversed at minor expansions.

1 *Difference between Wage Rates and Average Hourly Earnings*
The time and piece rate are the two basic systems of wage payment. The time rate, the basis of compensation for a specified period of labor, usually an hour, is generally expressed as an hourly rate. The wages of workers hired by the day or week can be expressed as an hourly rate merely by dividing the standard wage payment for the day or week by the standard number of hours worked per day or week.

The basic hourly rate, 'straight time', is the remuneration for an hour's labor performed during the day shift in the course of the normal workweek. Hours worked in excess of the hours comprising the standard workweek are usually compensated at a higher rate, 'overtime', figured as a specified percentage of the straight-time hourly rate. Work on an evening or night shift also is frequently compensated at premium rates, determined by adding an absolute amount, called a 'shift differential', to the straight-time hourly rate. These arrangements make the straight-time hourly rate the pivotal time rate.